

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A surface deformation actuation structure, comprising:
a deformable membrane that has a first surface and a second surface opposite said

first surface;

an array of actuators located facing the second surface, each actuator having an actuating surface, each actuator being arranged to actuate displacement of the actuating surface substantially perpendicularly to the second surface; and

an array of actuating connections, each coupled to the actuating surface of a respective one of the actuators in the array and a respective point of the second surface substantially opposite the actuating surface, each actuating connection having anisotropic stiffness, substantially transmitting movement perpendicular to the second surface and leaving planar displacement and/or local rotation of the second surface substantially free, wherein the array of actuators comprises:

a variably magnetizable base ~~planeplate~~,

an array of variably magnetizable islands on said base ~~planeplate~~,

actuator coils, each running around a respective one of the islands,

a system of variably magnetizable walls on the base ~~planeplate~~, the walls dividing a surface of the base ~~planeplate~~ into separate cells, each containing a respective one of the islands and coils, and

a variably magnetizable resilient surface, with surface parts that each rest on at least one of the walls of respective cells, extend over a respective one of the islands and contain a respective one of the actuating surfaces.

2. (Currently Amended) A ~~The~~ surface deformation actuation structure according to claim 1, comprising permanent magnets placed on top of the islands.

3. (Withdrawn - Currently Amended) A ~~The~~ surface deformation actuation structure according to claim 1, wherein the array of actuators comprises a support plate and the surface deformation actuation structure comprises:

a support structure, and

an array of rod shaped connection elements connecting the support structure and support plate, the array of rod shaped connection elements forming a space to permit air to circulate between the support structure and the support plate, each connection element having anisotropic stiffness, thereby substantially limiting a maximum distance between the support plate and the support structure to a predetermined value, while permitting transverse relative movement between the support structure and the support plate.

4. (Withdrawn – Currently Amended) ~~A~~The surface deformation actuation structure according to claim 3, wherein the support structure comprises a honeycomb structure with cells that extend perpendicular to the support plate, and wall segments surrounding the cells at least in planes perpendicular to the support plate, the connection elements connecting junctions of wall segments to the support plate.

5. (Withdrawn – Currently Amended) ~~A~~The surface deformation actuation structure according to claim 4, comprising thermal isolation material between the wall segments and inner spaces of the cells, the cells being open to permit air circulation from and/or to the support plate through the cells.

6. (Currently Amended) ~~A~~The surface deformation actuation structure according to claim 1, wherein the first surface is an optical mirror surface.

7. (Currently Amended) ~~A~~The surface deformation actuation structure according to claim 1, wherein each actuation connection is rod shaped and at least ten times longer perpendicular to the second surface than wide.

Claims 8-12 (Canceled).